REMARKS/ARGUMENTS

Favorable reconsideration of this application is requested in view of the amendments above and the remarks which follow.

Disposition of Claims

Claims 2-5 and 7-10 are pending in this application.

Specification

The specification has been amended as set forth above to correct typographical errors.

Rejections under 35 U.S.C. §103

A. Claims 1-10 were rejected under 35 U.S.C. §103(a) as being obvious over Pavlik et al. (WO 97/30933) in view of Pickrell et al. (US Patent No. 6, 210,612). Claims 1 and 6 have been cancelled. Accordingly, rejection of claims 1 and 6 is now moot. The rejection of claims 2-5 and 7-10 is respectfully traversed.

Claim 2 recites a fused silica soot production furnace which comprises a precursor delivery system for delivering silicon containing precursor to the furnace, a burner for producing a flame and converting the precursor into silica-containing soot, a crown constructed from a foamed refractory material having a network of interconnected pores, wherein the pores in the foamed refractory material have a surface area greater than 0.5 m^2/g.

Pavlik et al. do not disclose or teach a fused silica soot production furnace wherein the crown of the furnace is constructed from a foamed refractory material having a network of interconnected pores, wherein the pores in the foamed refractory material have a (specific) surface area greater than 0.5 m^2/g. Pickrell et al. also fail to overcome the deficiency in Pavlik et al.

The Examiner asserts that it would be expected that the refractory material disclosed in Pickrell et al. has a high surface area that exceeds 0.5 m^2/g since the refractory material disclosed in Pickrell et al. has a void volume up to 95%. However, it does not follow that a porous material having a void volume up to 95% has pores with a (specific) surface area greater than 0.5

m^2/g. The specific surface area depends on the composition of the porous material and the structure of the pores. In claim 2, the foamed refractory material and structure of the pores therein are such that the pores have a (specific) surface area greater than 0.5 m^2/g (as measured by the BET method). This feature is neither taught nor disclosed in Pickrell et al.

In view of the above, claim 2 is not obvious over Pavlik et al. in view of Pickrell et al. Withdrawal of the rejection of claim 2 is respectfully requested. Claims 3-5, being dependent on claim 2, are likewise patentable in view of the foregoing arguments. Similarly, claims 7-10, which recite a method of producing fused silica using the furnace recited in claim 2, are patentable in view of the foregoing arguments.

B. Claims 4 and 9 were rejected under 35 U.S.C. §103(a) as being obvious over Pavlik et al. (WO 97/30933) in view of Pickrell et al. (U.S. Patent No. 6,210,612) as applied to claims 1 and 6 above, and in further view of Pavlik et al. (U.S. Patent No. 6,574,991). This rejection is respectfully traversed.

As discussed above, Pavlik et al. '933 combined with Pickrell et al. do not teach the limitation "a crown constructed from a foamed refractory material having a network of interconnected pores, wherein the pores in the foamed refractory material have a surface area greater than 0.5 m^2/g." Pavlik et al. '991 also fail to overcome this deficiency. Therefore, Pavlik et al. '933 combined with Pickrell et al. and Pavlik et al. '991 cannot make claims 4 and 9 obvious since these claims contain the aforementioned limitation. Withdrawal of the rejection of claims 4 and 9 is respectfully requested.

C. Claims 5 and 10 were rejected under 35 U.S.C. §103(a) as being obvious over Pavlik et al. (WO 97/30933) in view of Pickrell et al. (U.S. Patent No. 6,210,612) as applied to claims 1 and 6 above, and in further view of Sempolinski et al. (U.S. Patent No. 5,332,702). This rejection is respectfully traversed.

As discussed above, Pavlik et al. combined with Pickrell et al. do not teach the limitation "a crown constructed from a foamed refractory material having a network of interconnected

pores, wherein the pores in the foamed refractory material have a surface area greater than 0.5 m^2/g." Sempolinski et al. also fail to overcome this deficiency. Therefore, Pavlik et al. combined with Pickrell et al. and Sempolinski et al. cannot make claims 5 and 10 obvious since these claims contain the aforementioned limitation. Withdrawal of the rejection of claims 5 and 10 is respectfully requested.

Conclusion

The rejected claims have been amended and/or shown to be allowable over the prior art. Applicant believes that this paper is fully responsive to each ground of rejection cited by the Examiner in the Office Action dated August 10, 2004, and respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Date: 11/10/2004

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